

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/14176

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 F01D5/14 F01D5/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 F01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 163 397 A (JOHANNES GASSMANN ET AL) 29 December 1964 (1964-12-29) figures 1,3 column 1, line 10 - line 53 column 2, line 33 - line 43 column 2, line 58 - column 3, line 2 ---	1-5,7
X	EP 0 990 771 A (GEN ELECTRIC) 5 April 2000 (2000-04-05) abstract; figures paragraph '0006! - paragraph '0010! paragraph '0018! - paragraph '0020! paragraph '0024! - paragraph '0025! --- -/--	1-5

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

7 April 2004

Date of mailing of the international search report

19/04/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

de Rooij, M

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/14176

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 958 505 A (FRANK ROBERT G) 1 November 1960 (1960-11-01) figure 2 column 1, line 15 - line 18 column 2, line 5 - line 38 ----	3-7
X	US 3 844 728 A (COPLEY S ET AL) 29 October 1974 (1974-10-29) abstract; figure 3 column 1, line 10 - line 32 column 1, line 63 - column 2, line 14 column 4, line 4 - line 19 ----	3,5-7
X	EP 0 556 047 A (PRECI SPARK LTD) 18 August 1993 (1993-08-18) claims 2,3,6,7,9; figures column 1, line 33 - line 36 column 1, line 47 - line 53 ----	3-6
X	EP 0 980 962 A (ALLISON ENGINE CO INC ;ALLISON ADVANCED DEV COMPANY (US)) 23 February 2000 (2000-02-23) abstract; figure 4 paragraph '0026! - paragraph '0030! -----	3,7

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/14176

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3163397	A	29-12-1964	NONE	
EP 0990771	A	05-04-2000	US 6193465 B1 EP 0990771 A1 JP 2000104503 A	27-02-2001 05-04-2000 11-04-2000
US 2958505	A	01-11-1960	NONE	
US 3844728	A	29-10-1974	FR 2099868 A5 DE 1912253 A1 FR 2004270 A5 GB 1247431 A SE 353935 B	17-03-1972 02-10-1969 21-11-1969 22-09-1971 19-02-1973
EP 0556047	A	18-08-1993	AT 142308 T DE 69304366 D1 DE 69304366 T2 EP 0556047 A1 GB 2264149 A , B JP 5340203 A	15-09-1996 10-10-1996 05-06-1997 18-08-1993 18-08-1993 21-12-1993
EP 0980962	A	23-02-2000	US 6190133 B1 EP 0980962 A2	20-02-2001 23-02-2000

WO 2004/055332 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.